

Frigo et al.

S/N: 10/615,714

REMARKS

Claims 1-27 are pending in the present application. In the Office Action mailed June 28, 2004, the Examiner rejected claims 1-2, 13-14, and 21-22 under 35 U.S.C. §102(b) as being anticipated by the publication "Proton Spectroscopic Imaging of the Human Brain Using Phased Array Detectors" by Wald et al. The Examiner indicated allowable subject matter in claims 2-12, 15-20, and 23-27 -- such indication is appreciated. However, the status of claim 2 is in question because it is listed in both groups.

Regarding claims 1-2, 13-14, and 21-22 rejected under 35 U.S.C. §102(b), the Examiner stated that "Wald meets all the limitations of the claims at issue." Office Action, para. 2. Applicant respectfully disagrees.

According to the MPEP, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP §2131. Claim 1 calls for, in part, generating and displaying a proton MRS absorption spectrum from the single superset of MRS results for clinical inspection. Claim 13 calls for, in part, a computer programmed to display a proton MRS absorption spectrum from a single composite set of MRS results. Claim 21 calls for, in part, a computer readable storage medium having stored thereon a computer program to generate a single composite MRS spectrum from MR data acquired from multiple coil elements that comprises a set of instructions, which when executed by a computer, causes the computer to display a single MRS absorption spectrum as a function of the combined set of MRS results acquired from the multiple coil elements. Therefore, not all the elements as set forth in claims 1, 13, and 21 are not found, either expressly or inherently, in Wald et al.

Specifically, Wald et al. "discuss[es] the design and performance of four different configurations of phased array detectors developed to achieve" benefits that increase the signal to noise ratio and the region of sensitive detection as compared with that of any of the individual coils alone in proton spectroscopic imaging of the brain. See page 440. Wald et al. teaches that chemical shift imaging (CSI) data was obtained from volunteers, and "[a]ll of the spectra shown are water-suppressed proton spectra...." See page 441. The data received from the individual receivers is formed into a single image to maximize the signal to noise ratio of each pixel in the image. See page 441. Wald et al. teaches that the spectra received in the study from the individual receivers was "optimally combined by phasing them independently, weighting each

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spectroscopic voxel of each receiver by its SNR, and then combining the weighted data voxel by voxel." Id.

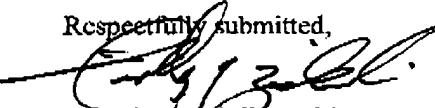
Wald et al. does not teach or discuss displaying a proton MR spectroscopy absorption spectrum. Neither the figures nor the accompanying text teach displaying a proton MR spectroscopy absorption spectrum. Figure 1 shows the four coil designs developed for the study discussed in Wald et al. Figure 2 "shows axial images and the theoretical reception profile of the coil [depicted in Fig. 1a]." See page 442. In figure 3, "the SNR of proton spectra obtained with a voxel size of 0.94 cm³" using the coil depicted in figure 1a is shown. Id. "Figure 4 shows images and spectra acquired with the two overlapping 6 cm diameter coils of Fig. 1c." See page 443. Figure 5 shows the images acquired from each receiver of the coil depicted in figure 1b along with the combined image. See pages 443-444. Figure 6 shows 2D CSI data acquired with the coil depicted in figure 1b in the sagittal plane. See page 444. Figure 7 shows "the combination process for four of the spectroscopic voxels" from the acquisition of figure 6. Id.

The display of a proton MR spectroscopy absorption spectrum is not taught in Wald et al. As such, claims 1, 13, and 21, and those claims that depend therefrom are believed to be patentably distinct from the art of record and in condition for allowance since each and every element as set forth in the claims is not found, either expressly or inherently described, in the art of record.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-27.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,



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